Fig. 1

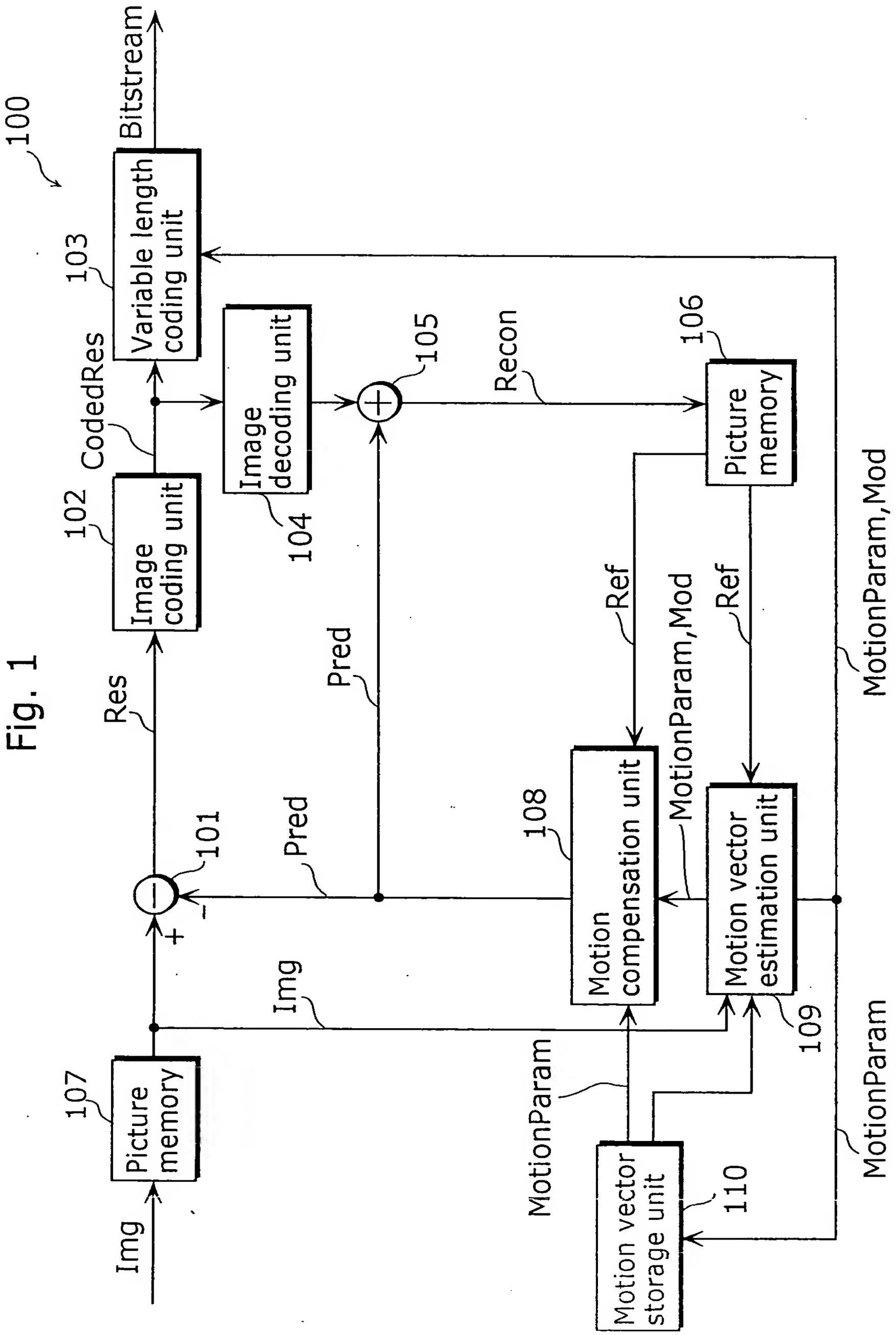
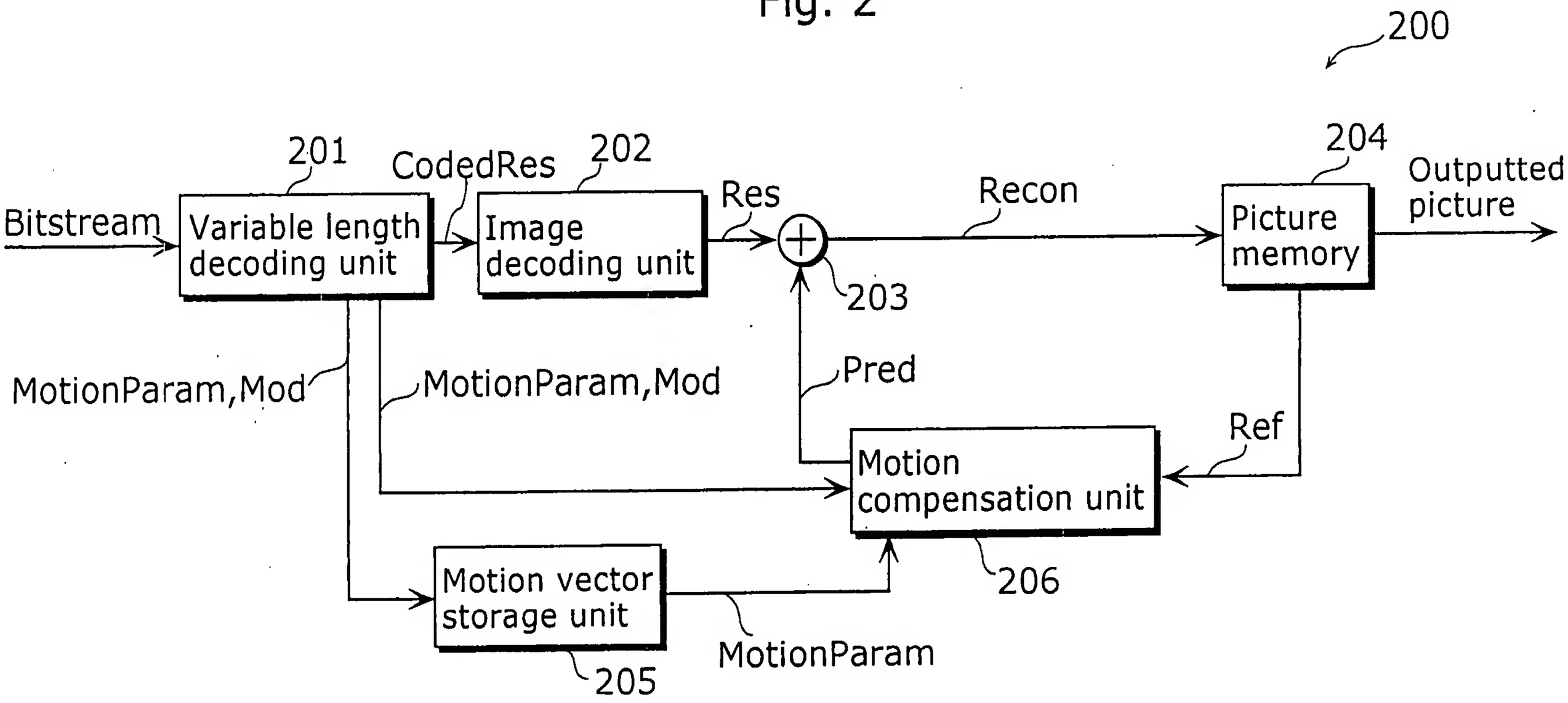

100
Bitstream
103
Variable length coding unit
CodedRes
102
Image coding unit
Image decoding unit
104
105
Recon
106
Picture memory
Res
Pred
Ref
MotionParam,Mod
Ref
MotionParam,Mod
101
Pred
108
Motion compensation unit
Motion vector estimation unit
109
Img
MotionParam
MotionParam
107
Picture memory
Img
MotionParam
Motion vector storage unit
110

Fig. 2



2/17

10/500575

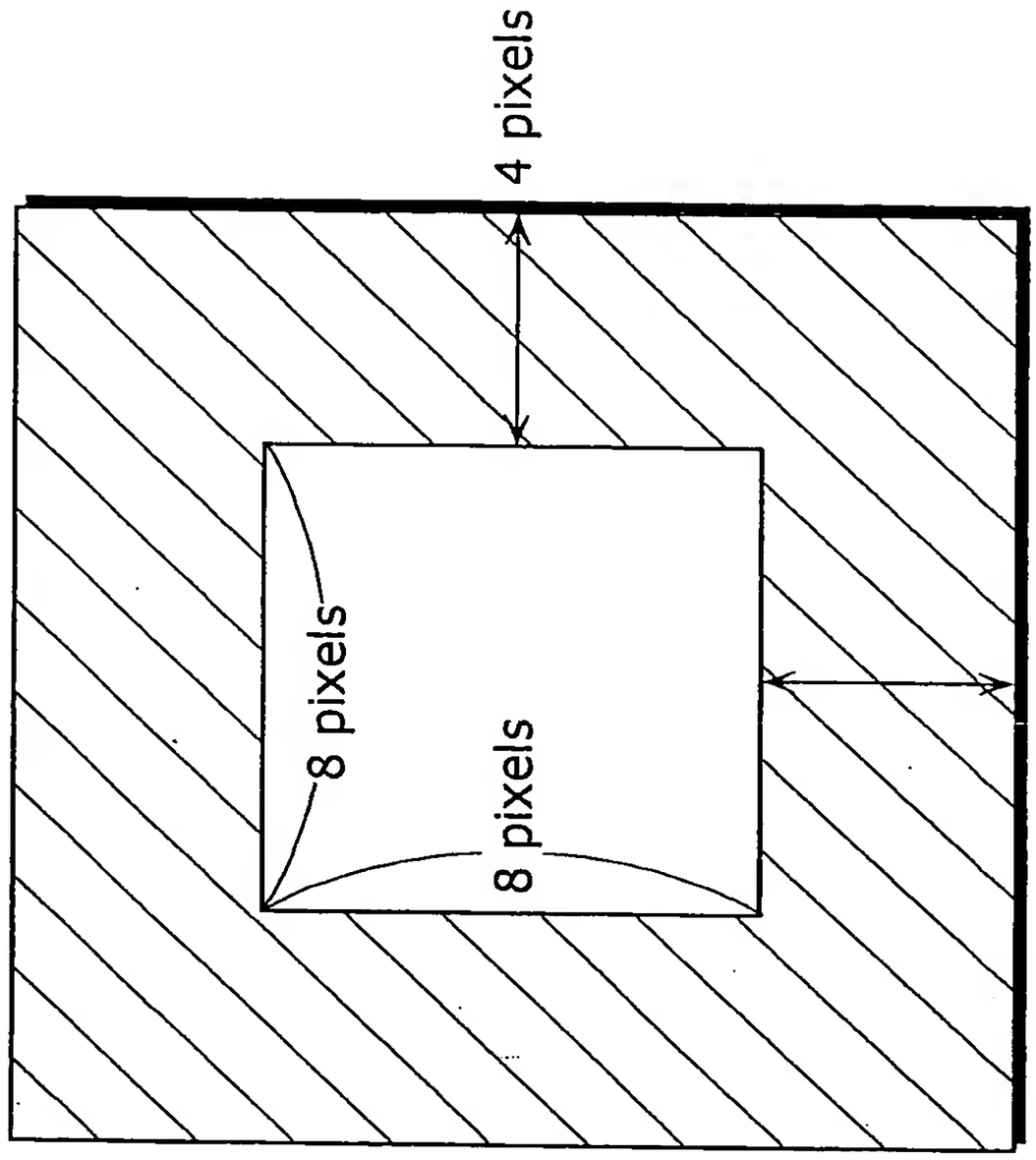

4 pixels
8 pixels
8 pixels
4 pixels
4 pixels

Fig. 3B

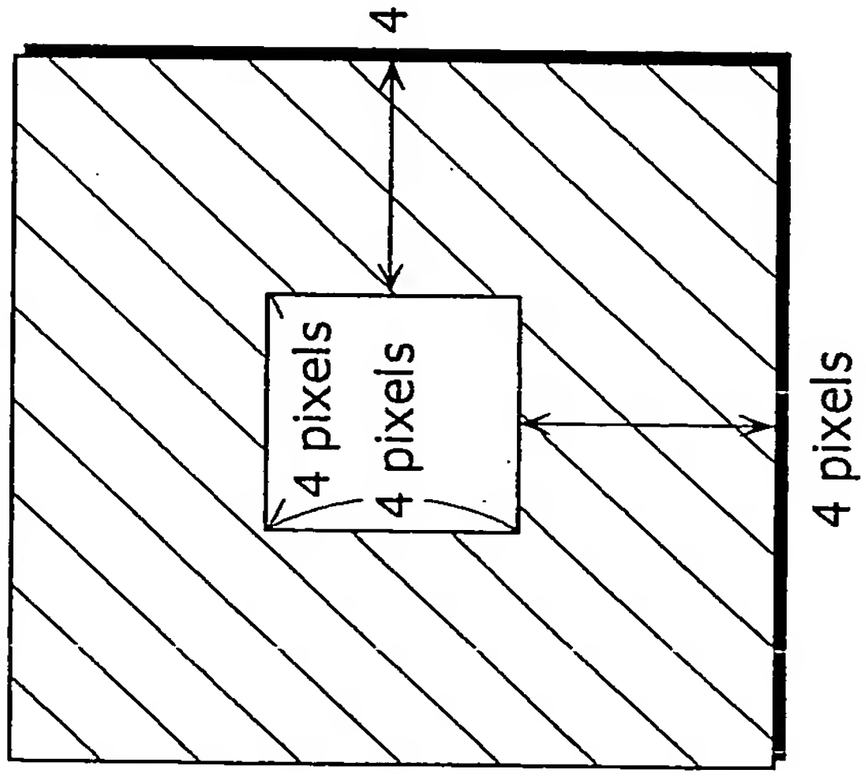

4 pixels
4 pixels
4 pixels

Fig. 3A

Fig. 4

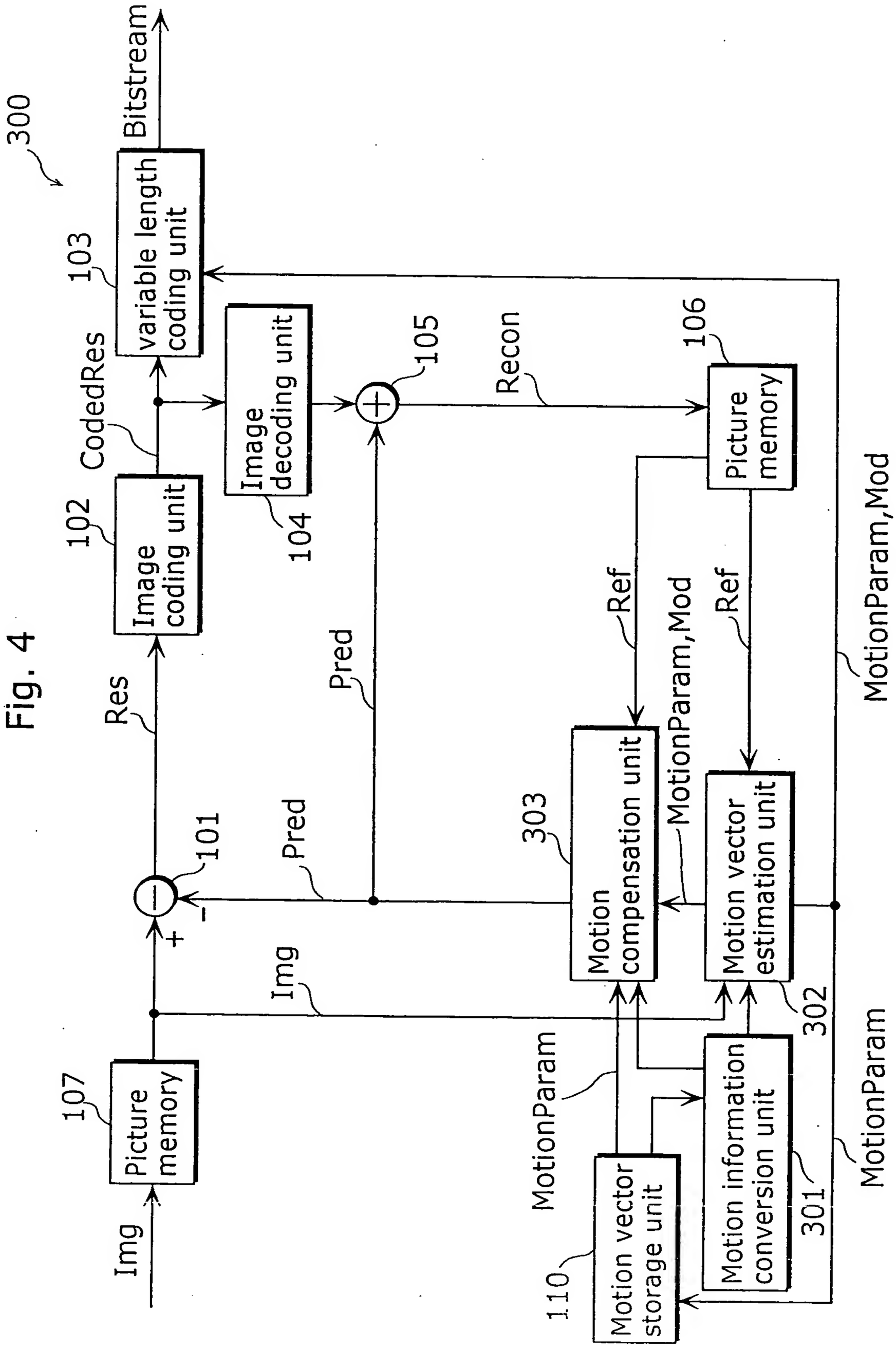
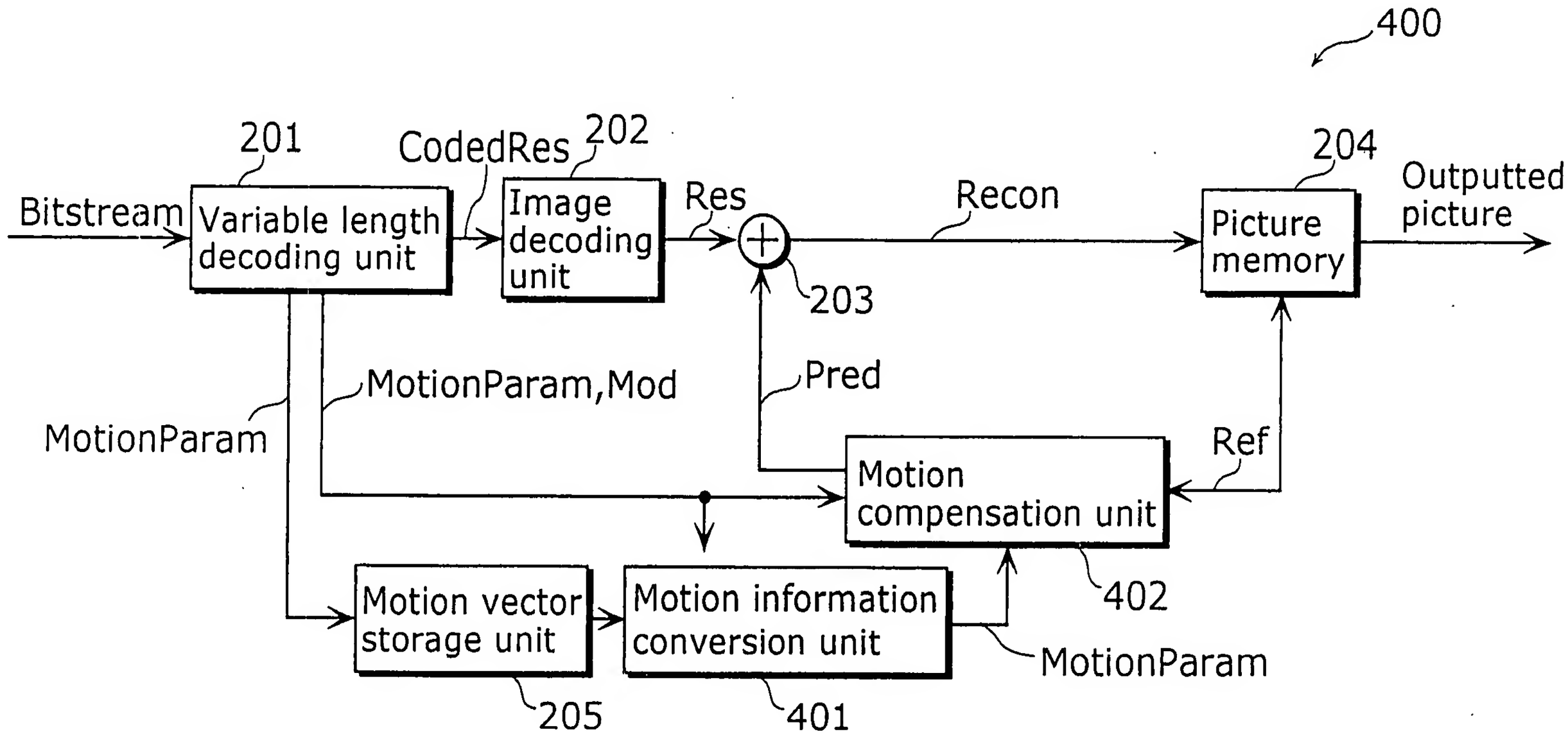

300
Bitstream
103
variable length coding unit
CodedRes
102
Image coding unit
Image decoding unit
104
105
Recon
106
Picture memory
Res
Pred
Ref
MotionParam,Mod
Ref
MotionParam,Mod
101
Pred
303
Motion compensation unit
Motion vector estimation unit
302
Img
MotionParam
Motion information conversion unit
301
MotionParam
107
Picture memory
Img
110
Motion vector storage unit

Fig. 5



5/17

10/550575

Fig. 6A

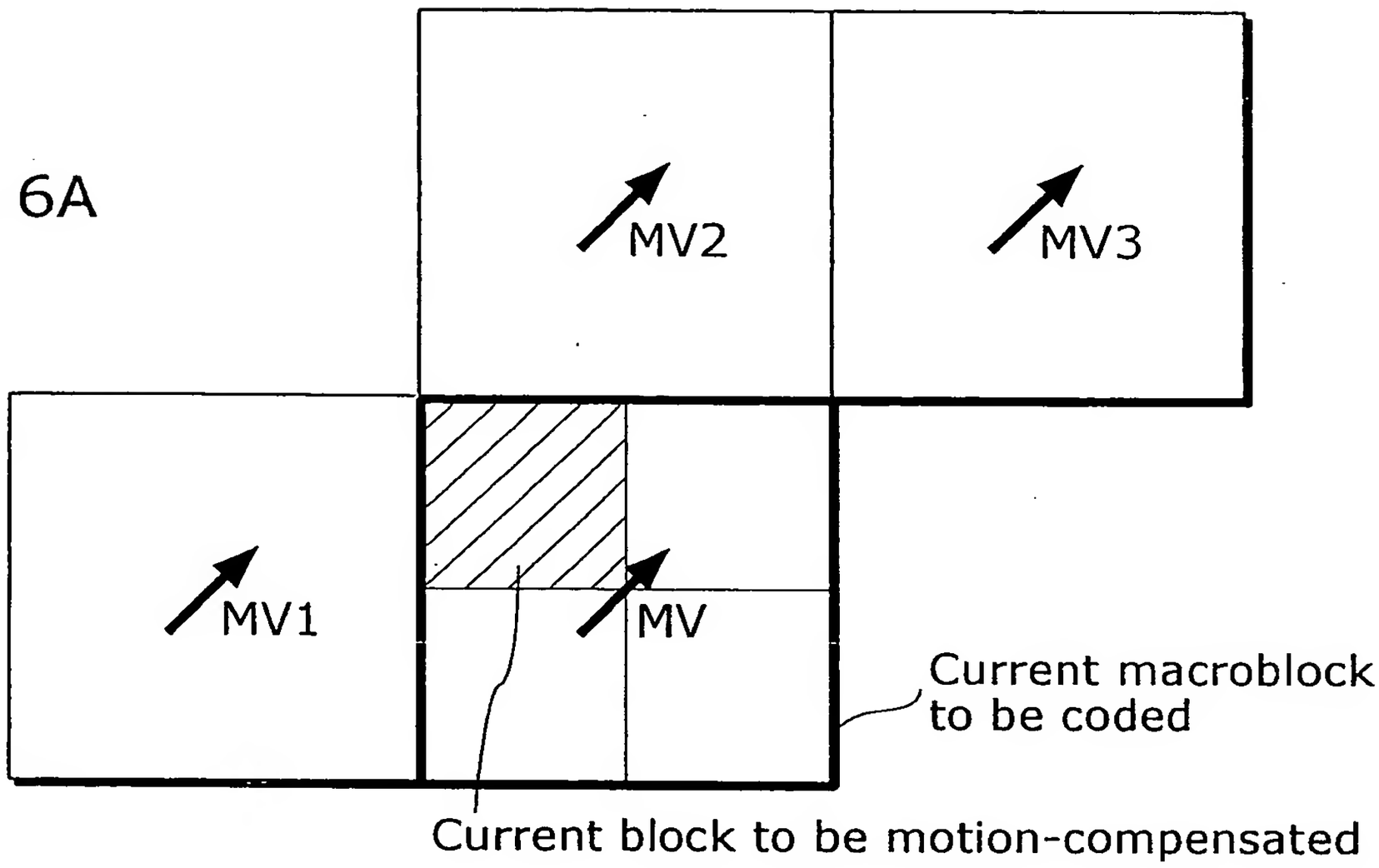

MV2
MV3
MV1
MV
Current macroblock
to be coded
Current block to be motion-compensated

Fig. 6B

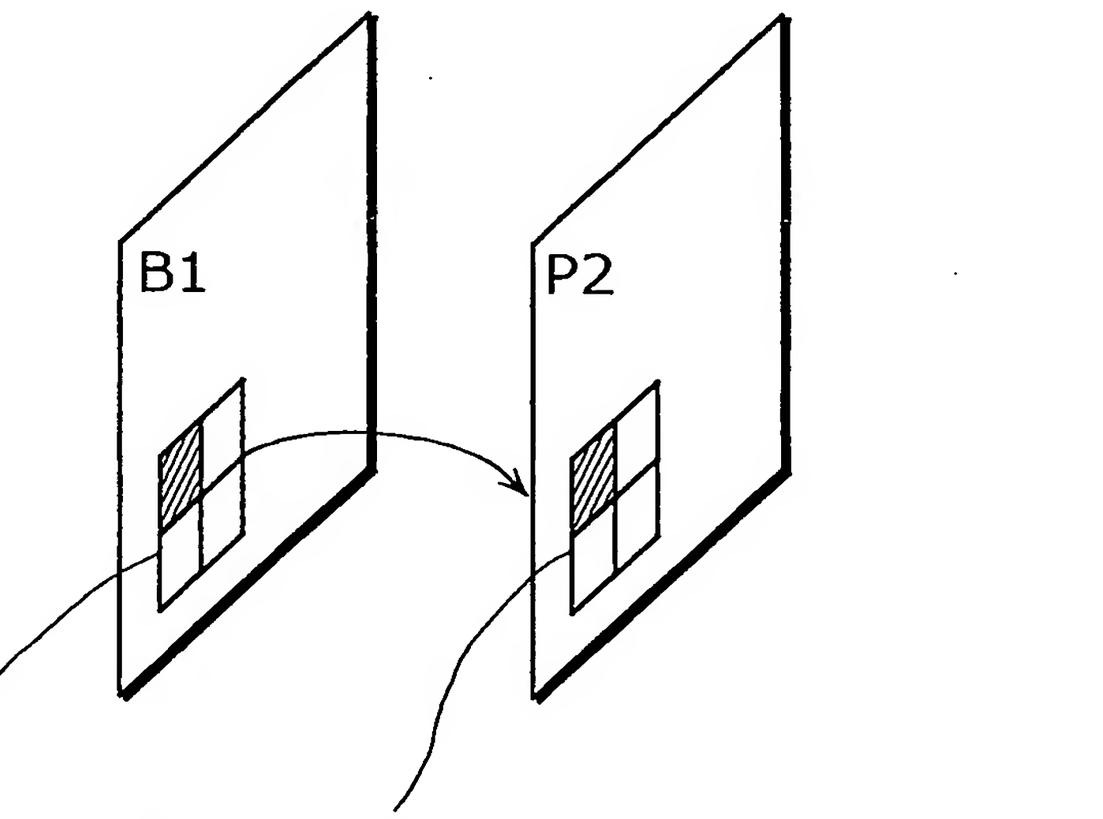

Display order
P0
B1
P2
Current macroblock
to be coded
Macroblock in a subsequent picture
which is co-located with a current
macroblock

Fig. 7

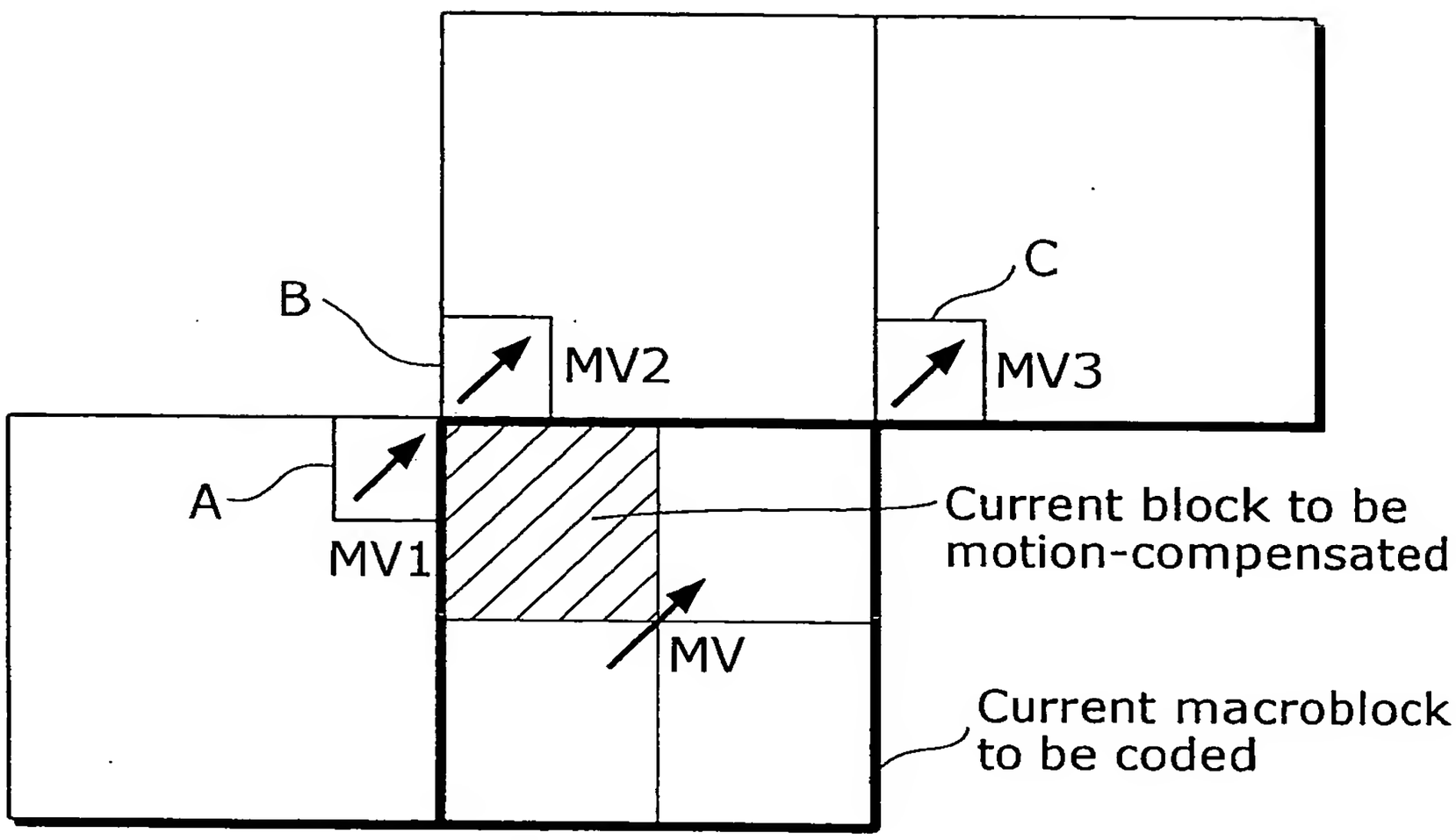
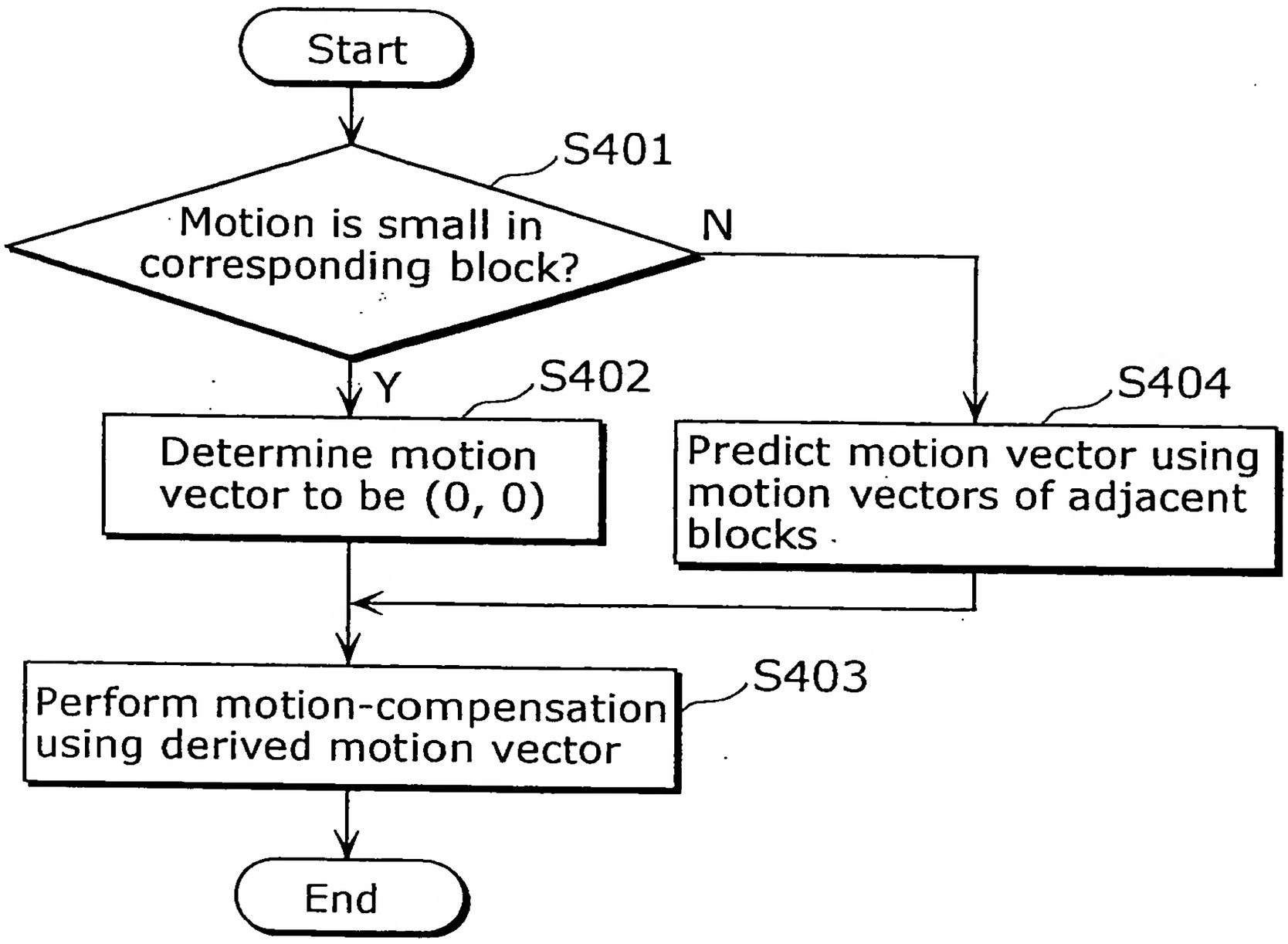

B
MV2
C
MV3
A
MV1
Current block to be
motion-compensated
MV
Current macroblock
to be coded

Fig. 8


Start
S401
Motion is small in corresponding block?
N
Y
S402
Determine motion vector to be (0, 0)
S404
Predict motion vector using motion vectors of adjacent blocks
S403
Perform motion-compensation using derived motion vector
End

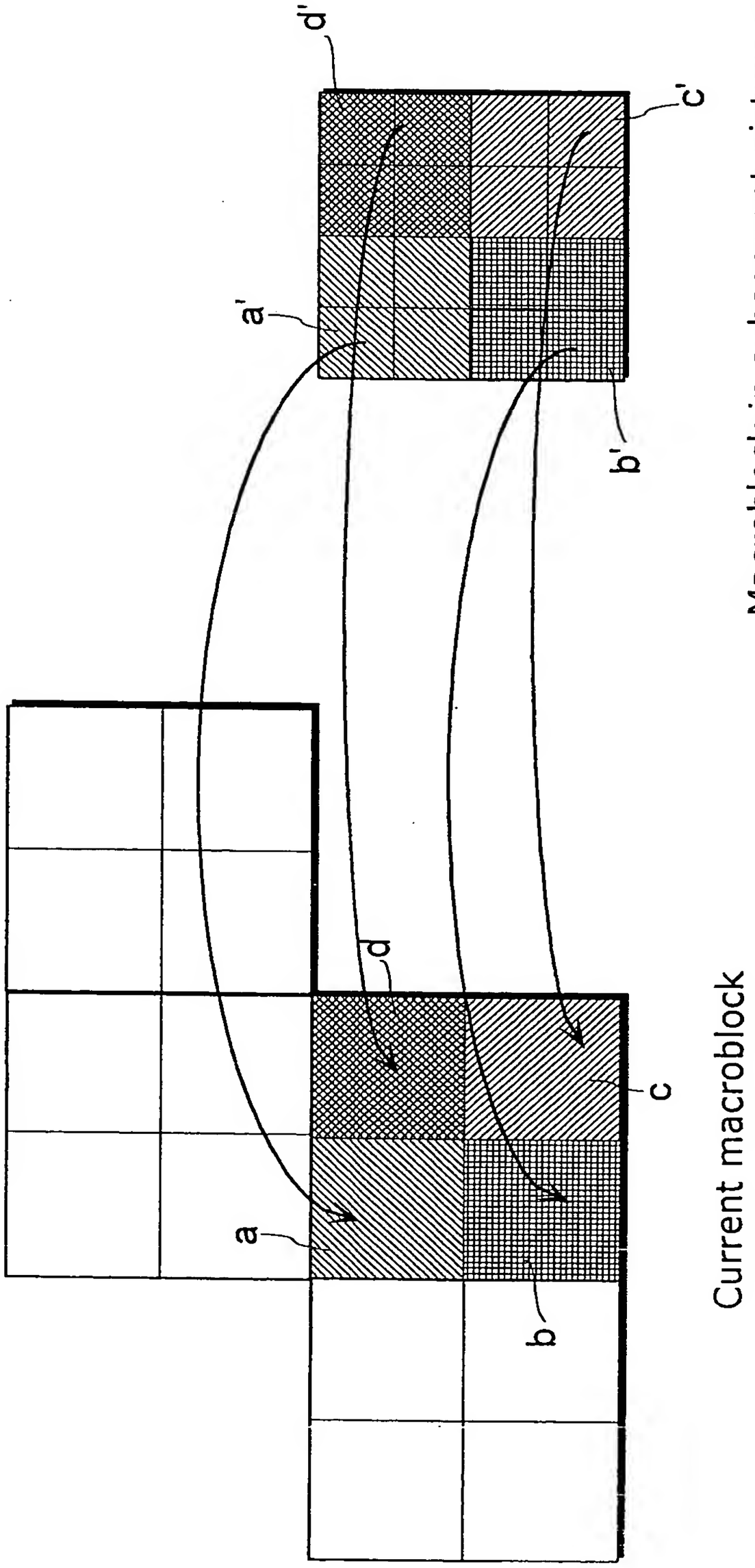
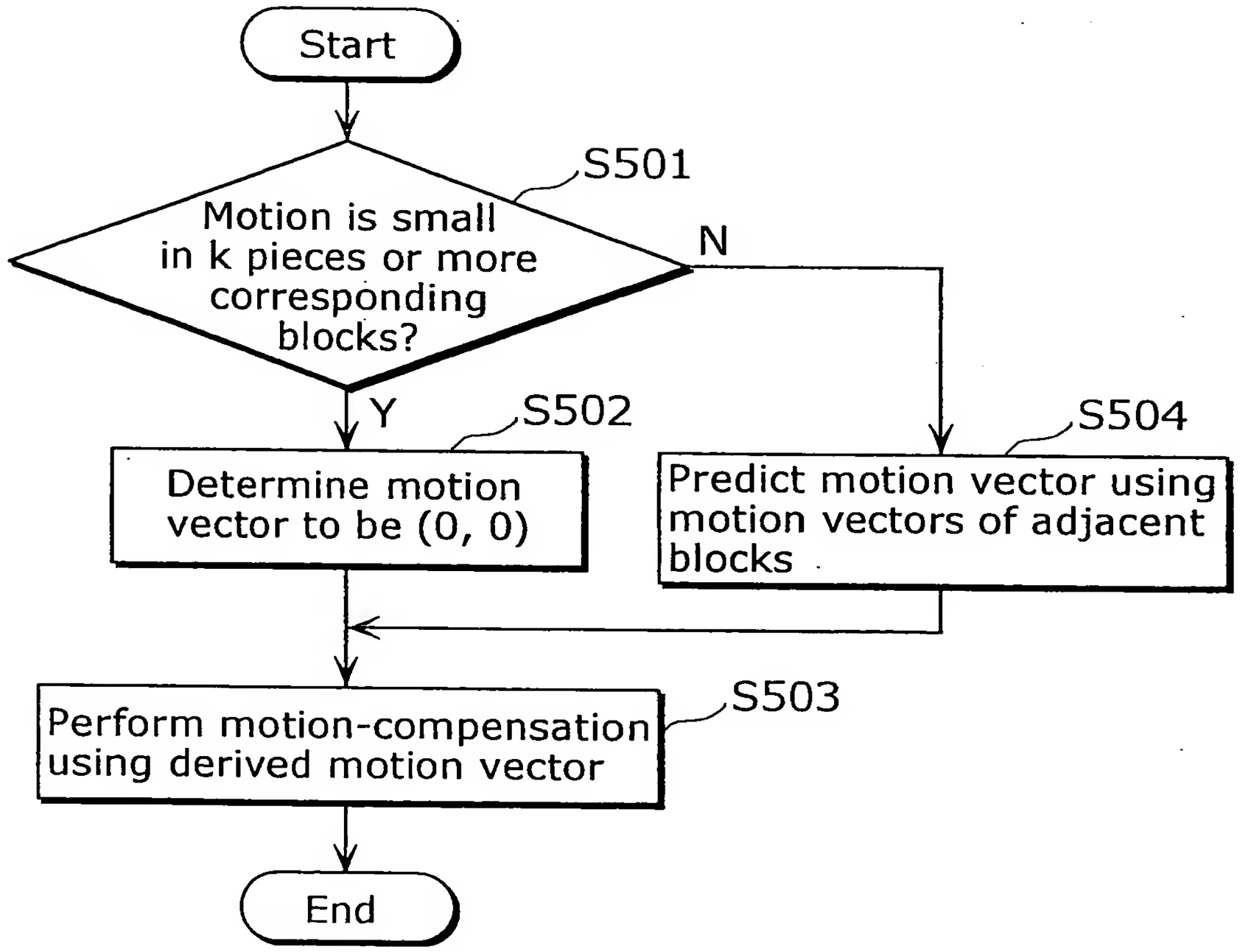

d'
c'
a'
b'
Macroblock in subsequent picture which is co-located with current macroblock
d
a
b
c
Current macroblock

Fig. 9

Fig. 10


Start
S501
Motion is small in k pieces or more corresponding blocks?
N
Y
S502
Determine motion vector to be (0, 0)
S504
Predict motion vector using motion vectors of adjacent blocks
S503
Perform motion-compensation using derived motion vector
End

RECEIVED PCT/PTO 0 1 JUL 2004

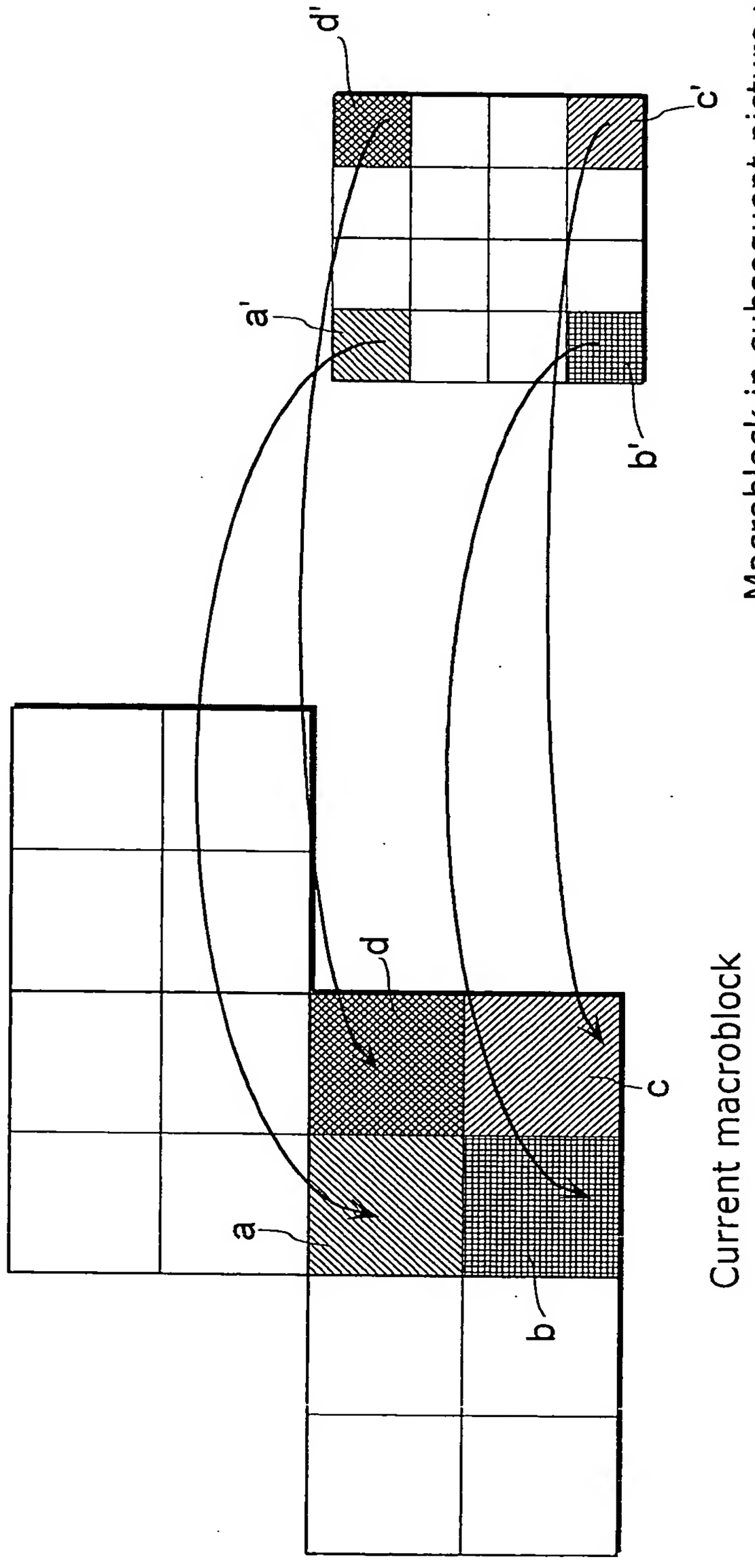


Fig. 11

Fig. 12

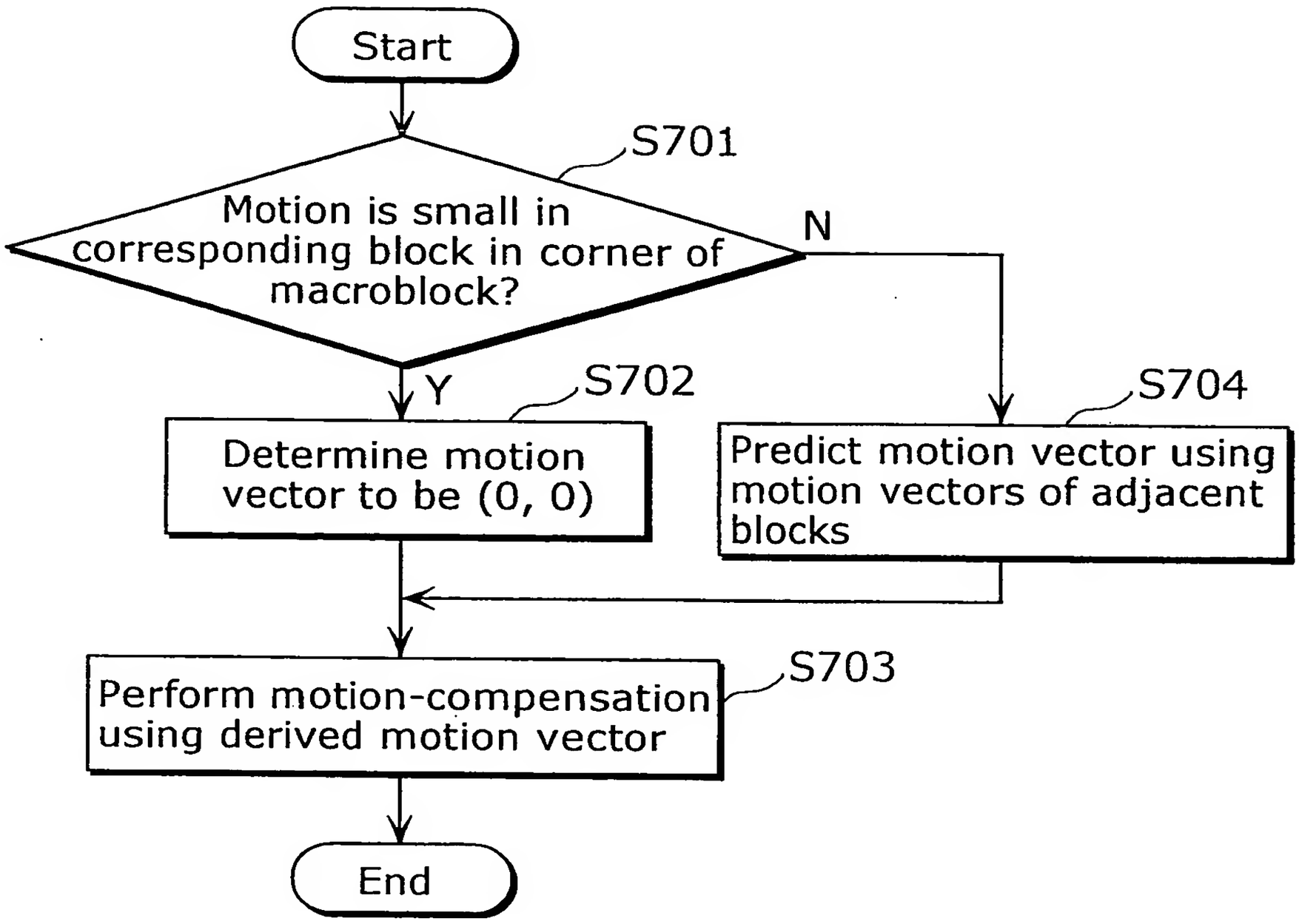

Start
S701
Motion is small in corresponding block in corner of macroblock?
N
Y
S702
Determine motion vector to be (0, 0)
S704
Predict motion vector using motion vectors of adjacent blocks
S703
Perform motion-compensation using derived motion vector
End

Fig. 13A

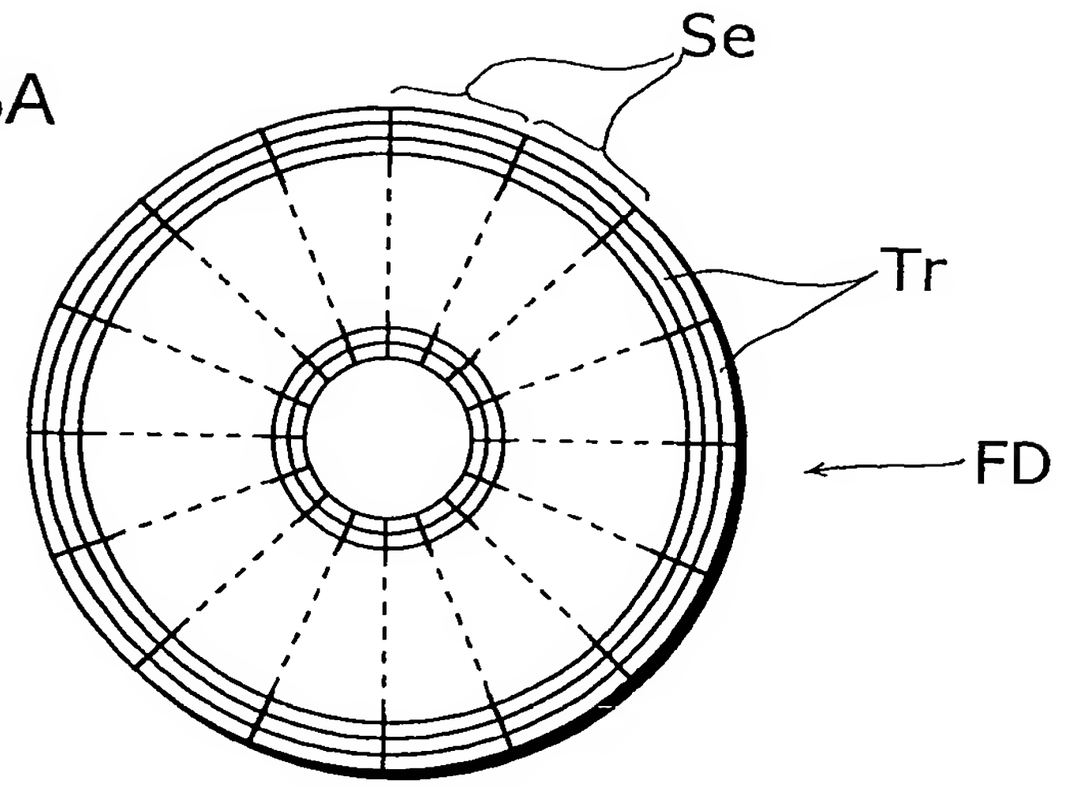


Fig. 13B

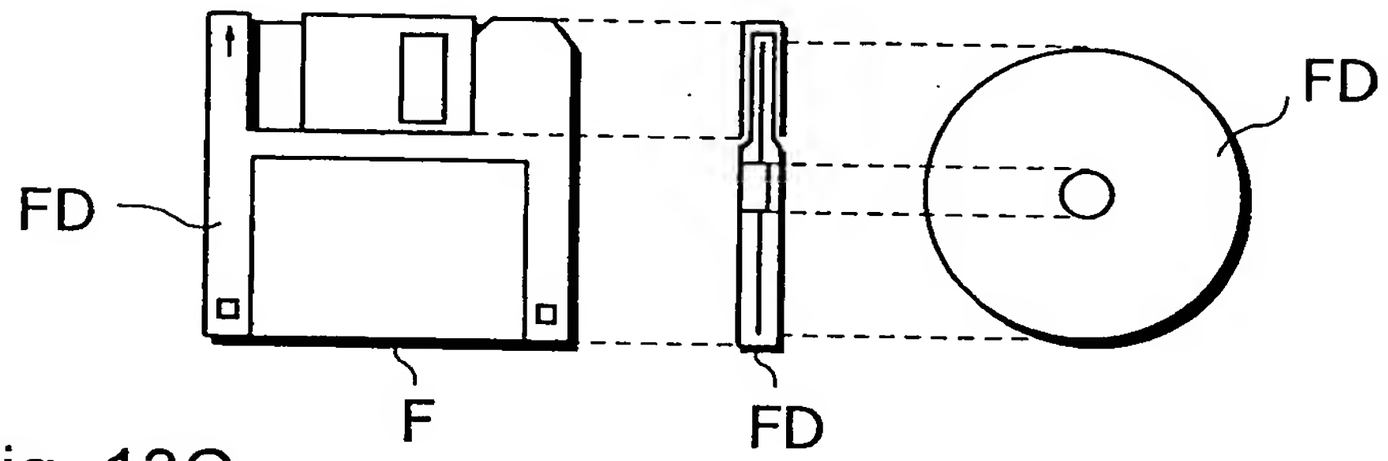


Fig. 13C

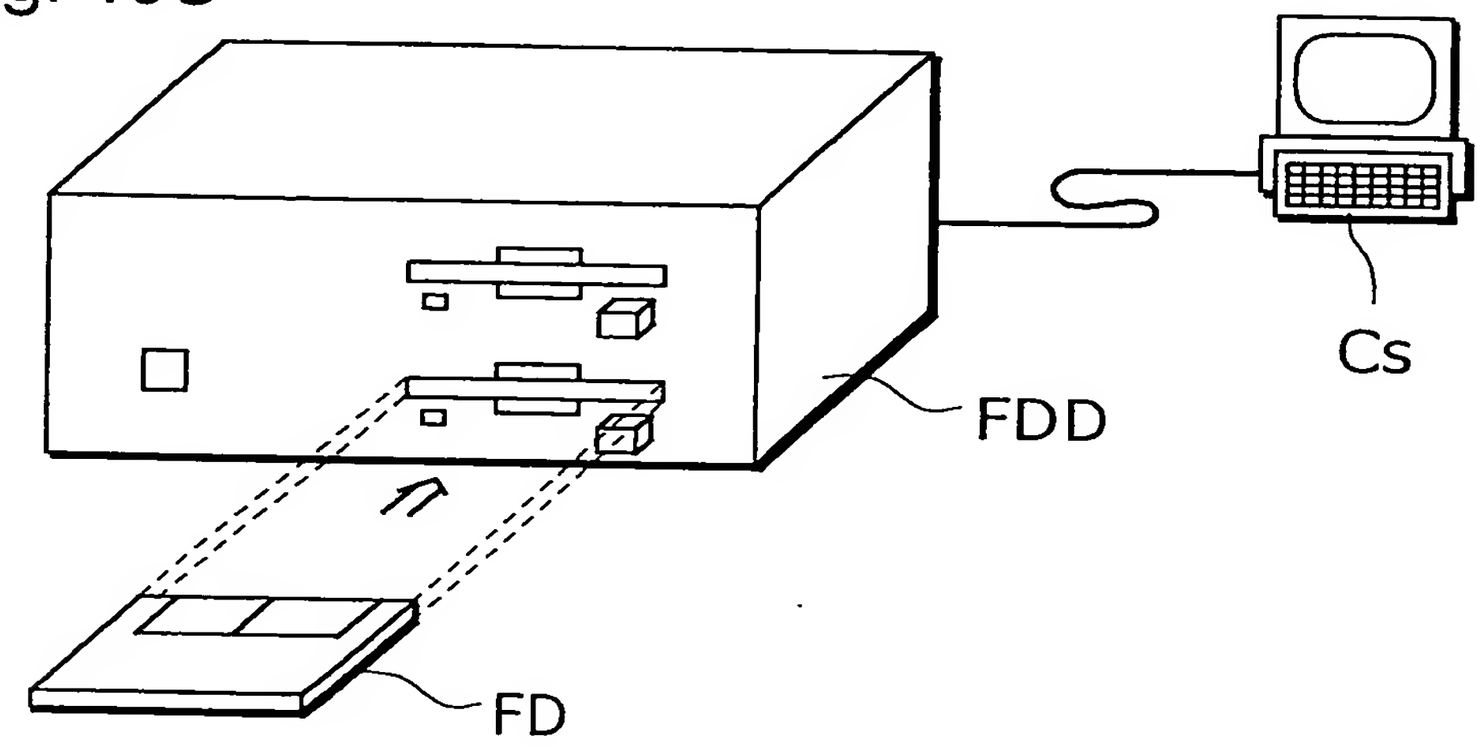
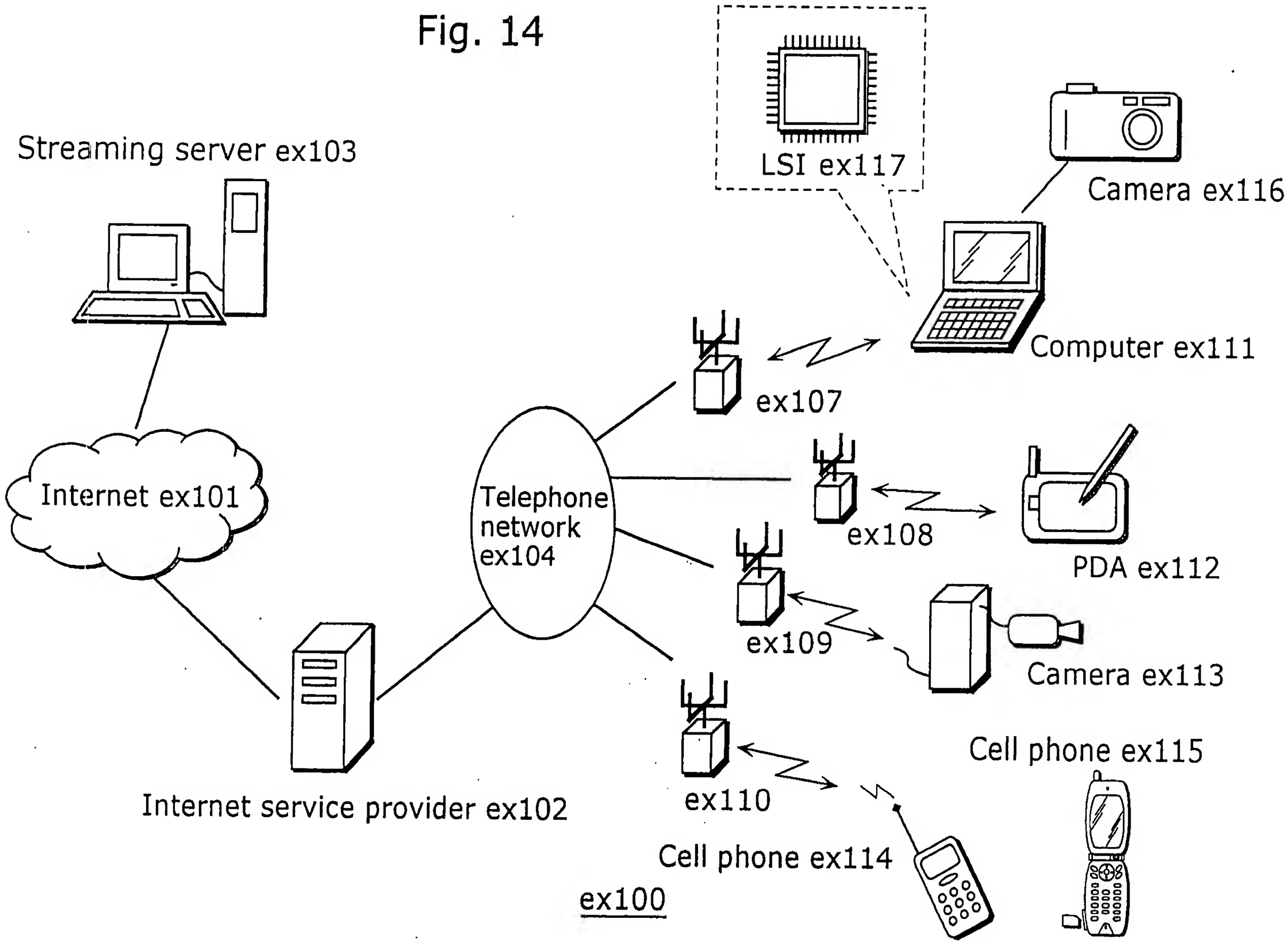


Fig. 14



14/17

10/500575

Fig. 15

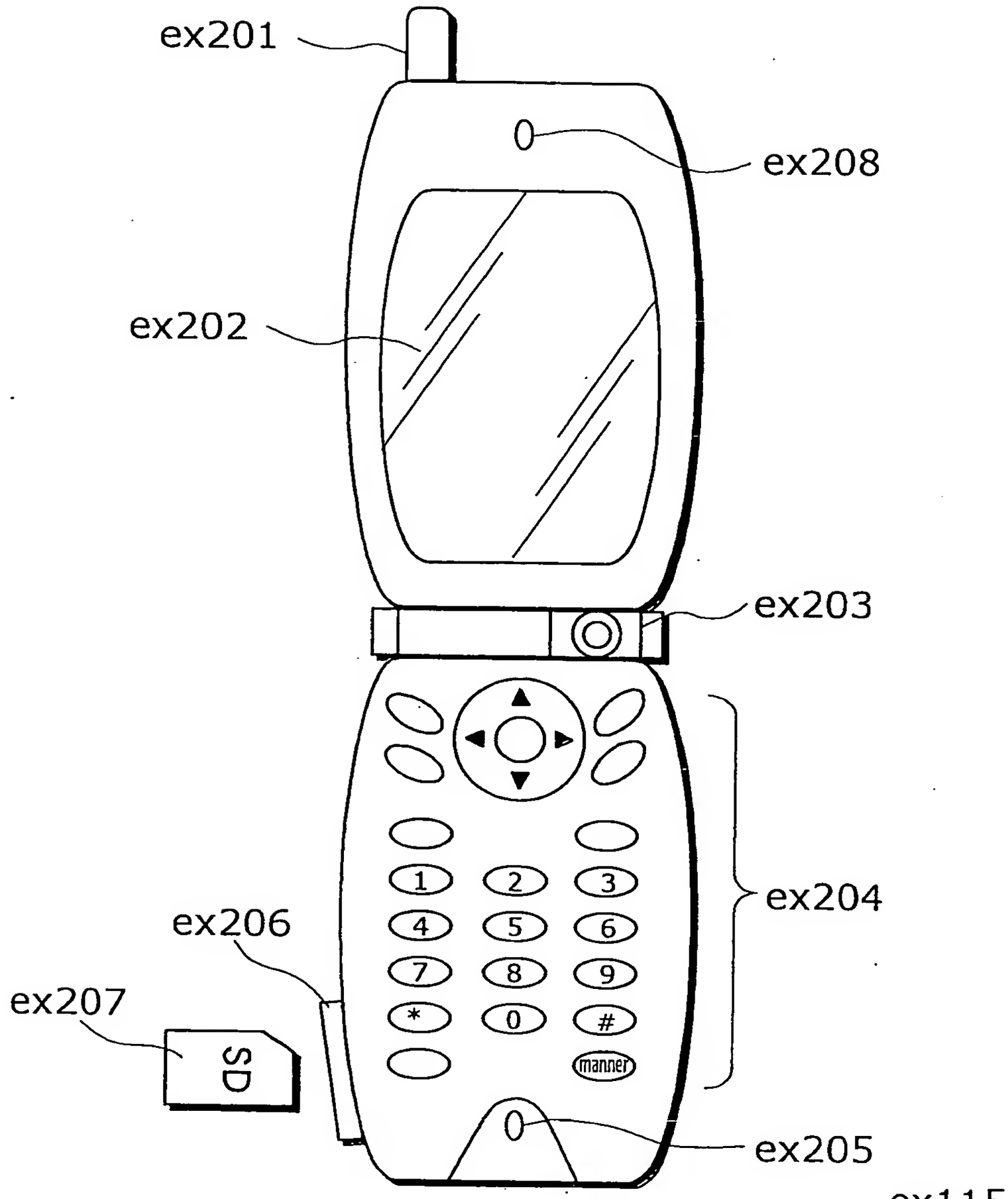


Fig. 16

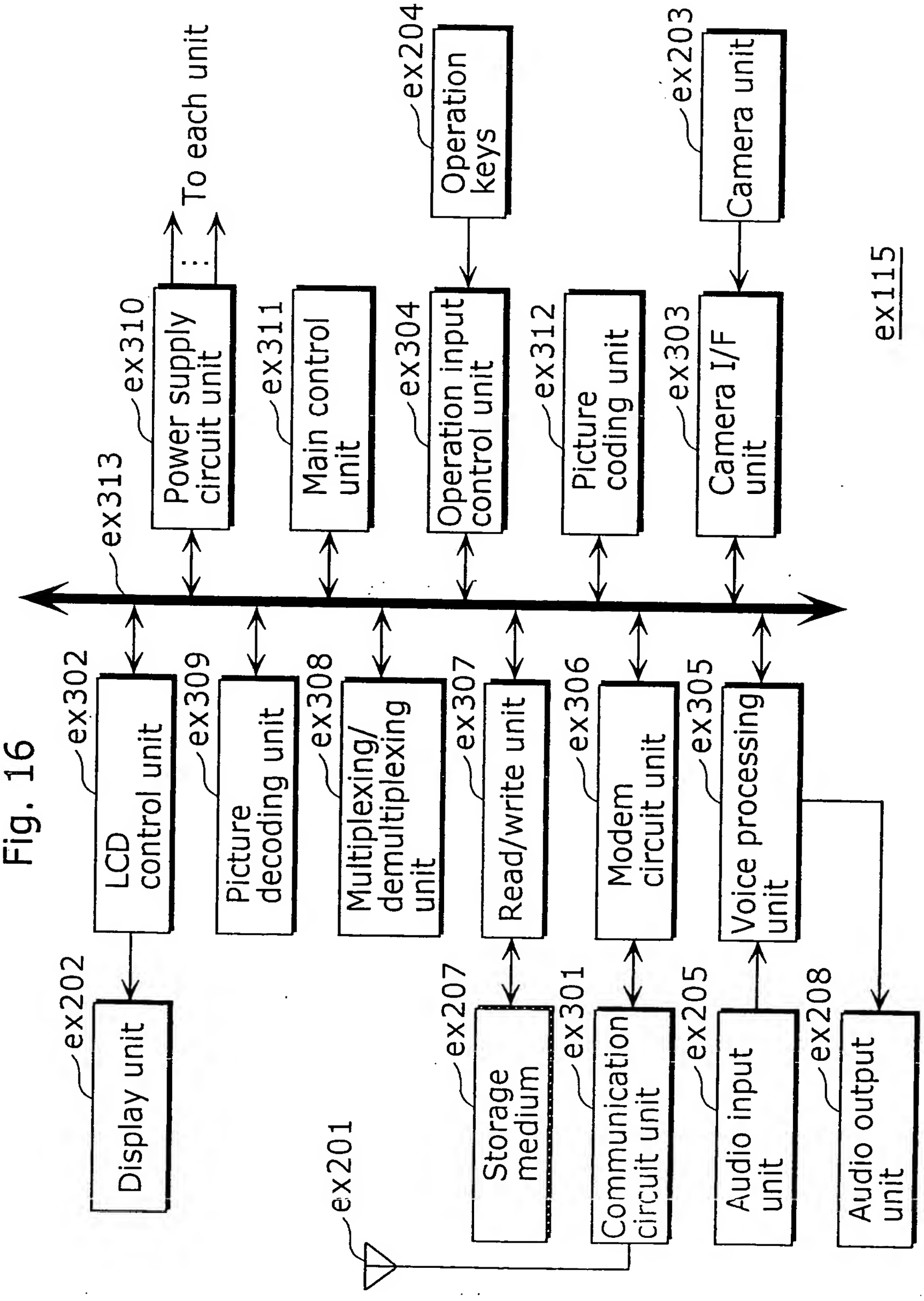
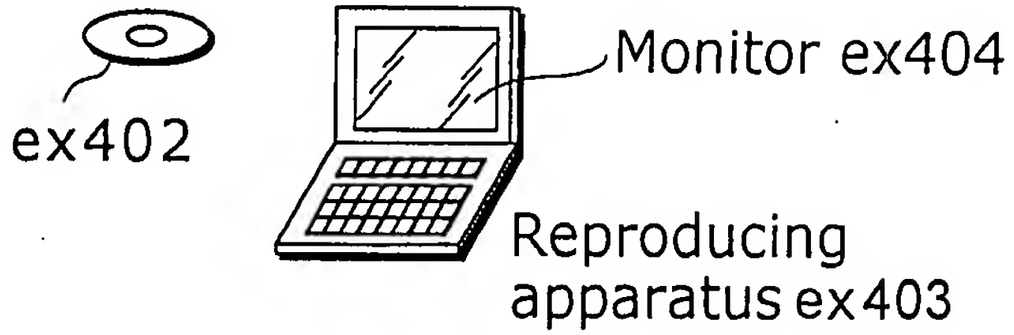
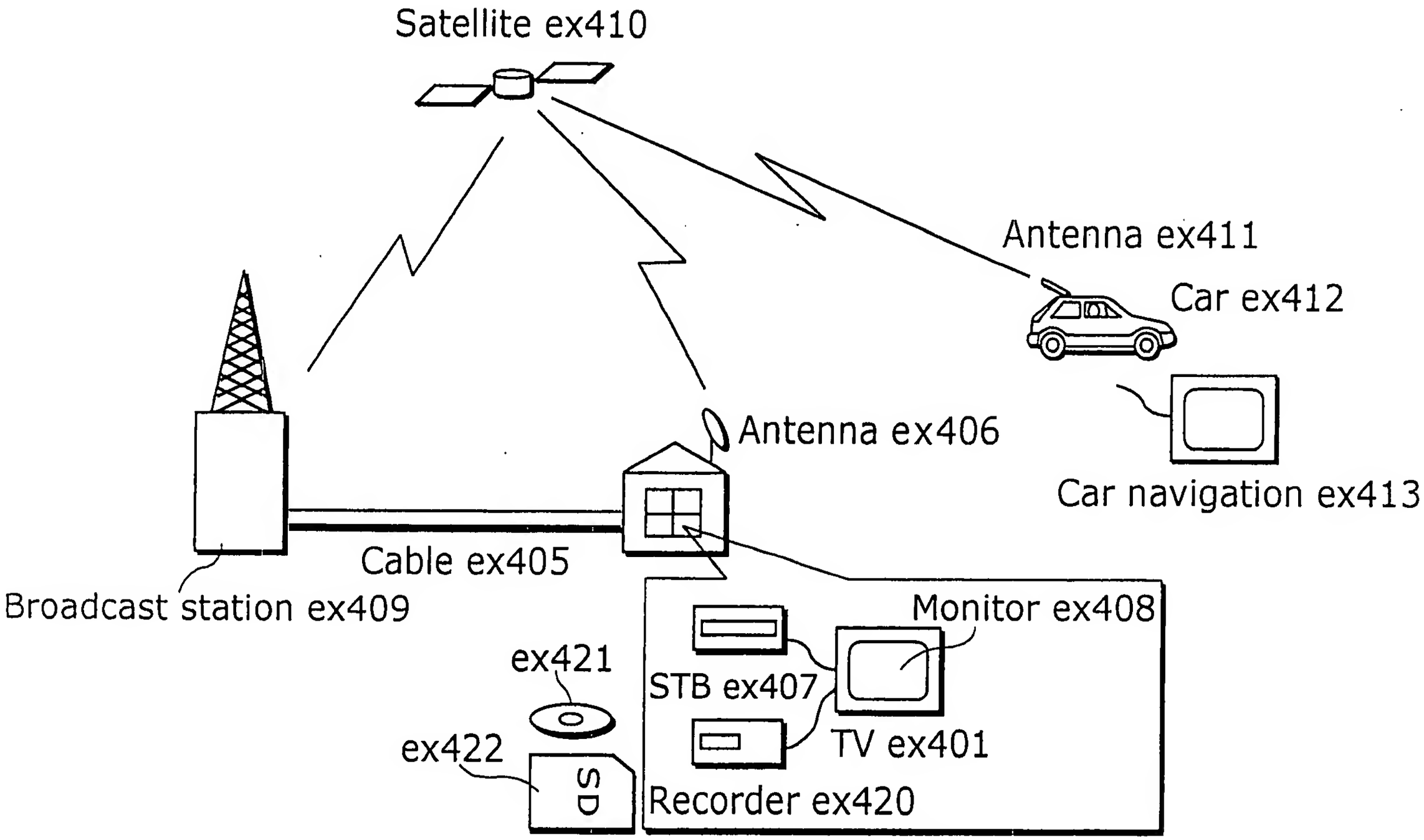

ex115
ex201
ex202 Display unit
ex203 Camera unit
ex204 Operation keys
ex205 Audio input unit
ex207 Storage medium
ex208 Audio output unit
ex301 Communication circuit unit
ex302 LCD control unit
ex303 Camera I/F unit
ex304 Operation input control unit
ex305 Voice processing unit
ex306 Modem circuit unit
ex307 Read/write unit
ex308 Multiplexing/ demultiplexing unit
ex309 Picture decoding unit
ex310 Power supply circuit unit
ex311 Main control unit
ex312 Picture coding unit
ex313
To each unit

Fig. 17





17/17
10/500575